ORDER NO. SD8001-1654

Service Manual

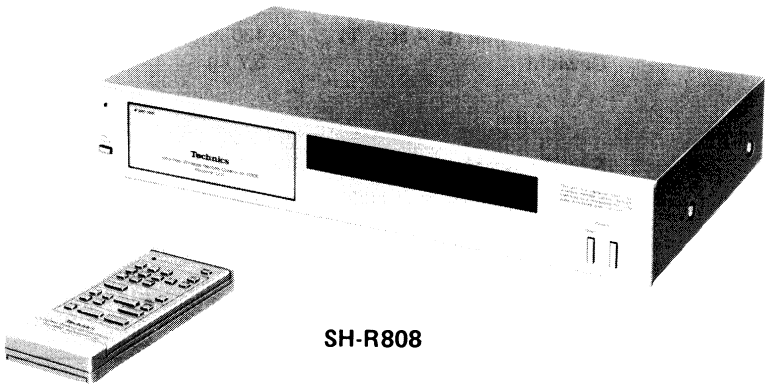
Infra-Red Wireless Remote Control

SH-R808

(DX), (DG), (DM), (EB), (XE), (XSW), (XGH), (XGF), (XA)

SH-R808(K)

(DX), (DG), (DM), (EB), (XSW), (XGH),



SH-R808

SH-R808 (K)

***The colors of this model include silver and black. The black type model is provided with (K) in the Service Manual.**

Areas

- *(DX) is available in Scandinavia except Denmark and European.
- *(DG) is available in Scandinavia and European except Switzerland.
- *(DM) is available in Denmark.
- *(EB) is available in Belgium.
- *(XE) is available in United Kingdom.
- *(XSW) is available in Switzerland.
- *(XGH) is available in Holland.
- *(XGF) is available in France.
- *(XA) is available in Asia, Latin America, Middle East and Africa.

TECHNICAL SPECIFICATIONS

Specifications are subject to change without notice for further improvement.

[DIN 45 500]

Receiver unit

Input sensitivity and impedance	: 500 mV/27 kΩ
Maximum allowable input	: 11 V
Total harmonic distortion	: 0.015 % (at rated output)
S/N	
rated output	: 90 dB (92 dB, IHF, A)
−26 dB output	: 68 dB
Frequency response	: 20 Hz~20 kHz, +0 dB, −0.5 dB
Residual hum and noise	: 0.03 mV
Volume control range	: 0 dB~−60 dB (2 dB steps), −∞ in 32 steps
Muting	: −20 dB
Output voltage	
rated	: 500 mV
maximum	: 3 V
Output impedance	: 2.2 kΩ
Channel balance	
250 Hz~6,300 Hz	: ±1.0 dB
Channel separation, 1 kHz	: 65 dB
Power consumption	: 6 W
Power supply	: AC 50 Hz/60 Hz, 110V/120V/220V/240V
Dimensions (W × H × D)	: 430 × 75 × 270 mm
Weight	: 3.7 kg

Transmitter unit

Effective signal-transmission distance	: Approx. 7 m
Power supply	: DC 3 V (two UM-3 1.5 V batteries)
Dimensions (W × H × D)	: 63 × 22 × 142 mm
Weight	: 136 g (with batteries)

Technics

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

TECHNISCHE DATEN [DIN 45 500]

Spezifikationen können infolge von Verbesserungen ohne Ankündigung geändert werden.

Empfangsgerät

Eingangsempfindlichkeit und -impedanz	: 500 mV/27 kΩ
Max. Eingangsspannung	: 11 V
Gesamtklirrfaktor	: 0,015 % (bei Nennleistung)
Rauschabstand	
Nennleistung	: 90 dB (92 dB nach IHF, A)
−26 dB Leistung	: 68 dB
Frequenzgang	: 20 Hz~20 kHz (+0 dB, −0,5 dB)
Restbrumm und Geräusch	: 0,03 mV
Lautstärkeregelbereich	: 0 dB~−60 dB (in 2-dB-Schritten), −∞ in 32 Schritten
Tondämpfung	: −20 dB
Ausgangsspannung	
Nennspg.	: 500 mV
Maximalspg.	: 3 V
Ausgangsimpedanz	: 2,2 kΩ
Kanalabweichung (250 Hz~6300 Hz)	: ±1,0 dB
Übersprechdämpfung (1 kHz)	: 65 dB
Leistungsaufnahme	: 6 W
Netzspannung	: Wechselstrom 50 Hz/60 Hz, 110V/120V/220V/240V
Abmessungen (B × H × T)	: 430 × 75 × 270 mm
Gewicht	: 3,7 kg

Sendegerät

Eff. Signalübertragungsdistanz	: etwa 7 m
Stromversorgung	: Gleichstrom 3 V (zwei Batterien UM-3 1,5 V)
Abmessungen (B × H × T)	: 63 × 22 × 142 mm
Gewicht	: 136 g (einschl. Batterien)

CARACTERISTIQUES TECHNIQUES [DIN 45 500]

Sujet à changement sans préaris.

Récepteur

Sensibilité et impédance d'entrée	: 500 mV/27 kΩ
Puissance d'entrée maximum	: 11 V
Distorsion harmonique totale	: 0,015 % (à puissance de sortie nominale)
Signal/Bruit puissance de sortie nominale	: 90 dB (92 dB, IHF, A)
puissance de sortie de −26 dB	: 68 dB
Réponse de fréquence	: 20 Hz~20 kHz, +0 dB, −0,5 dB
Bruit et ronflement résiduels	: 0,03 mV
Gamme de niveau sonore	: 0 dB~−60 dB (par palier de 2 dB), −∞ sur 32 niveaux
Réglage silencieux	: −20 dB
Tension de sortie	
nominale	: 500 mV
maxi.	: 3 V
Impédance de sortie	: 2,2 kΩ
Equilibrage des canaux, 250 Hz~6,300 Hz	: ±1,0 dB
Séparation des canaux, 1 kHz	: 65 dB
Consommation	: 6 W
Alimentation	: CA 50 Hz/60 Hz, 110V/120V/220V/240V
Dimensions (L × H × Pr)	: 430 × 75 × 270 mm
Poids	: 3,7 kg

Transmetteur

Distance efficace de transmission de signaux	: Environ 7 m
Alimentation	: CC 3 V (deux piles UM-3 1,5 V)
Dimensions (L × H × Pr)	: 63 × 22 × 142 mm
Poids	: 136 g (avec piles)

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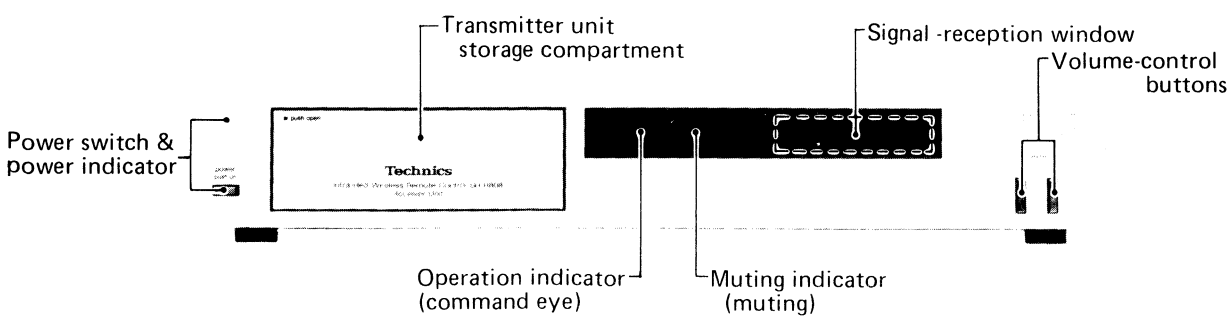
■ LOCATION OF CONTROLS

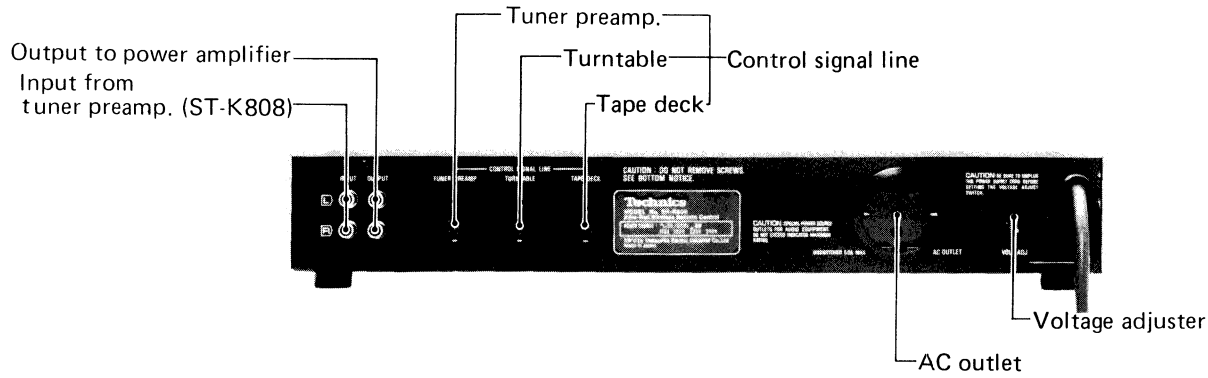
- **Front panel view of receiver unit**



• Rear Panel view of receiver unit

This photo is available in (DX, DG, EB, XGH) and (XGF)

(Except for Denmark, Switzerland, United Kingdom, Asia, Latin America, Middle East and Africa)



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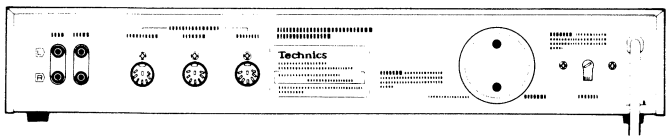
(for Denmark)



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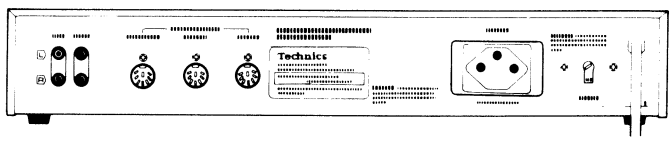
(for Switzerland)



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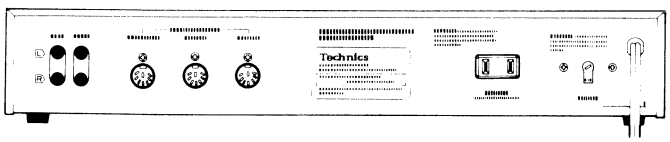
(for Asia, Latin America, Middle East and Africa)



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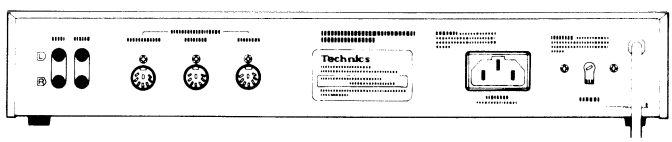
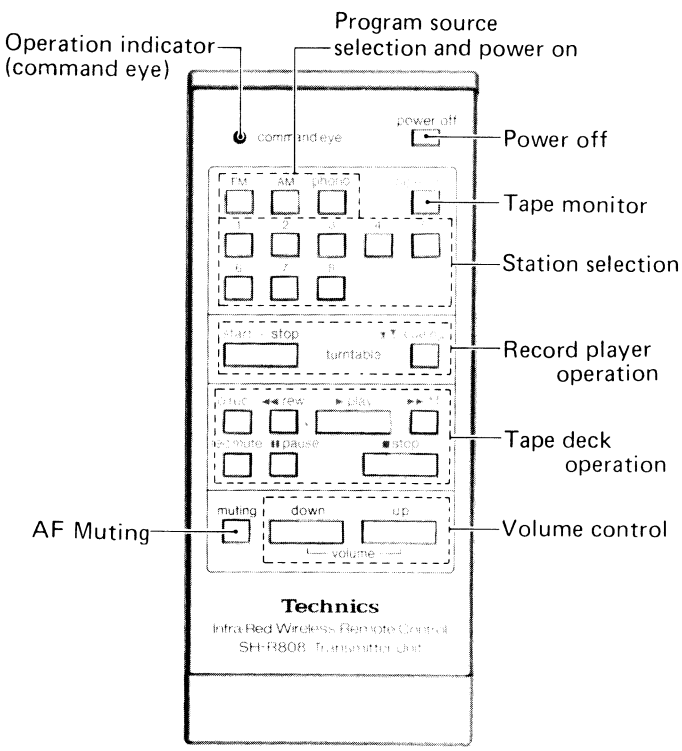
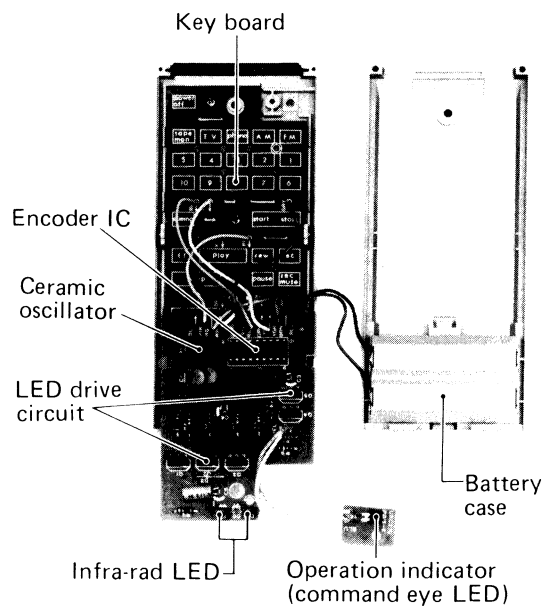
(for United Kingdom)



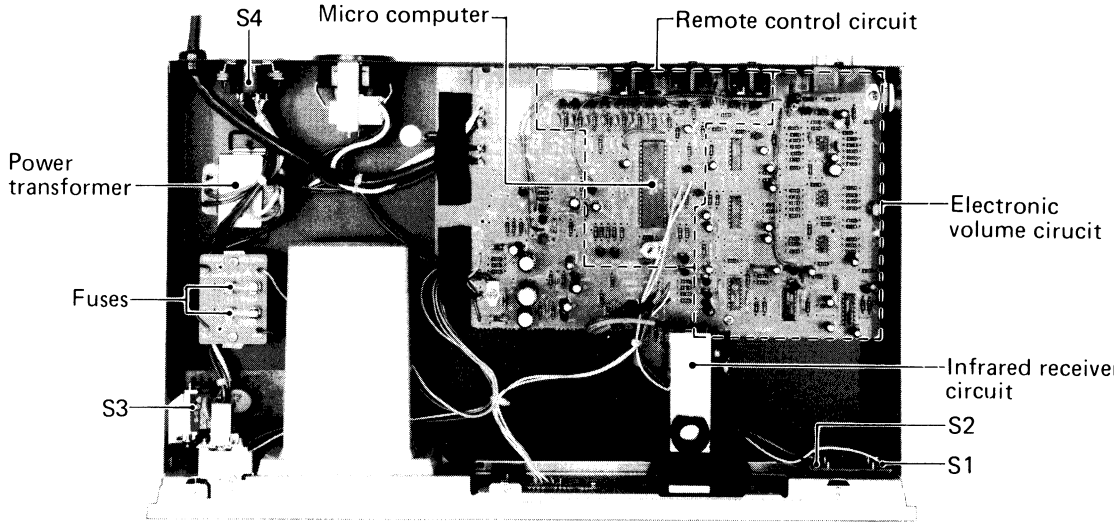
• Transmitter



• Inside view of transmitter



- **Inside view of receiver unit**



■ DISASSEMBLY INSTRUCTIONS

1. Remove the 4 setscrews of the cabinet, then slightly shift the cabinet backward and lift it while forcing its side panels outward. (Fig. 1)
2. Remove the 6 setscrews of the front panel to detach the panel from the chassis. (Fig. 1)
3. Remove setscrews ❶ and ❷ to detach the receiver panel as shown in Fig. 2.
4. Reaching from the back of the set, remove setscrews ❹ ~ ❼ of DIN socket, and setscrews ❽ ~ ❿ in the printed circuit board, and then detach the printed circuit board from the chassis. (Fig. 2)
5. To remove the receiver unit from the receiver panel, pull the receiver unit in the direction of 2 while slightly bending the lug at the bottom of the receiver panel as shown in Fig. 3.
6. To install the receiver unit, insert it until the stopper of the unit is engaged with the lug of the panel.
7. Toothed washers must be used for screws ❽ and ❾ shown in Fig. 2.

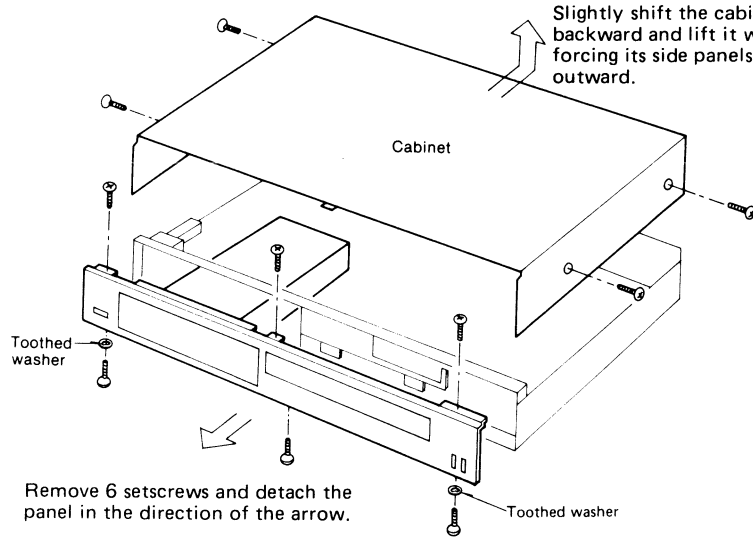

Slightly shift the cabinet backward and lift it while forcing its side panels outward.
Cabinet
Toothed washer
Remove 6 setscrews and detach the panel in the direction of the arrow.
Toothed washer

Fig. 1

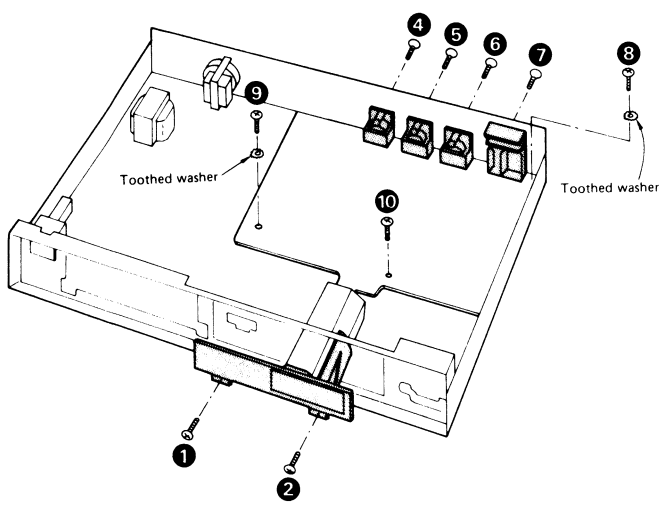


Fig. 2

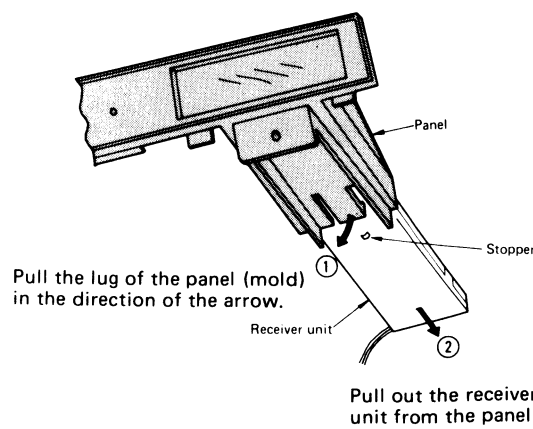
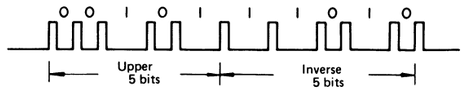

Panel
Stopper
Pull the lug of the panel (mold) in the direction of the arrow.
Receiver unit
Pull out the receiver unit from the panel.

Fig. 3

■ TECHNICAL GUIDE

Operation of Transmitter

1. MN6025C is an 5-bit IC which can generate 25 kinds of signals. The oscillation frequency is 396kHz and is divided by 12 to obtain 33kHz which is used as modulation frequency. It is further divided by 16 to achieve 2.06kHz which is the clock frequency of this IC.
2. When the keyborad is depressed, MN6025C starts oscillating and generates series pulses of 5 bits plus inverse 5 bits, totalling 10 bits, according to the key position.
3. The 10-bit pulse signal is modulated by 33kHz carrier.
4. The modulated signal from MN6025C is applied to the infrared LED and command eye LED drive circuits. With the signal completely emitted, it stops oscillating. The oscillation time is about 60 msec. required for 10 bits, while the lighting up time of the command eye is set at about 0.5 sec.



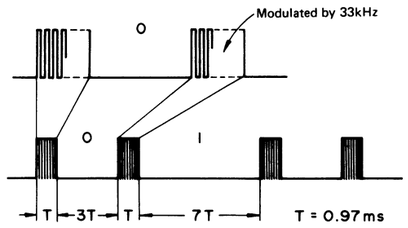


Fig. 4

Operation of Receiver

1. The receiver consists of a PIN photo diode, amplifier, LC tuning circuit, detection circuit, and wave-form shaping circuit (Schmitt Trigger), and it changes the infrared signal from the transmitter into the original 10-bit signal.
2. The 10-bit pulse signal is processed by the microcomputer, and then the necessary remote control signal is taken out from each output port.
3. The output interface is a circuit to facilitate the connection with each equipment, and it is an inverter using an open collector.

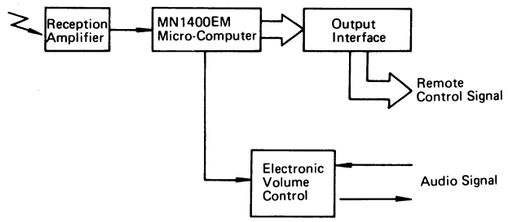


Fig. 5

Electronic Volume Control

1. In this control, five attenuators of −2dB, −4dB, −8dB, −16dB and −32dB, and a muting circuit of −20dB are turned ON-OFF by an analog switch for changeover in 32 steps ranging from 0dB to −60dB and to ∞ by −2dB each.
2. The analog switch is driven by a 5-bit binary up-down counter, which is provided with last sound function due to the back-up signal from the tuner pre-amplifier.
3. The volume control up-down switch gains 1 step in the initial 0.5 sec. of push, and keeping it depressed causes step-by-step volume control every 0.15 sec. When the switch is kept depressed, it takes about 5 seconds for the change from 0dB to −∞dB.
4. A 5-bit IC (LC7500) is used as the controller for the electronic volume. With this IC, the five attenuators can be selected in 32 steps (2^5) as illustrated above. The internal oscillation frequency 800Hz is divided into pulses of 0.15 sec. period, and the pulses are counted at the counter circuit to select the attenuators.
   When the volume up-down switch is pressed, three pulses are first counted to select an attenuator and subsequently the attenuators are selected every pulse.

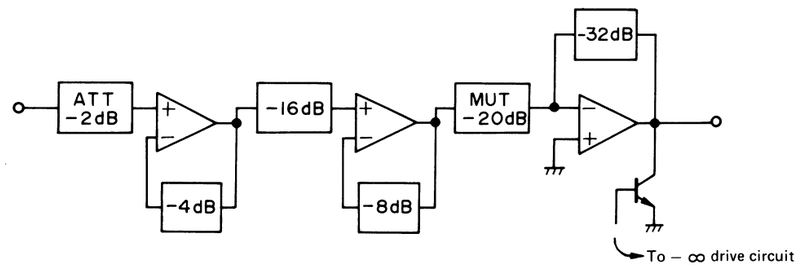


Fig. 6

■ ALIGNMENT INSTRUCTIONS ENGLISH

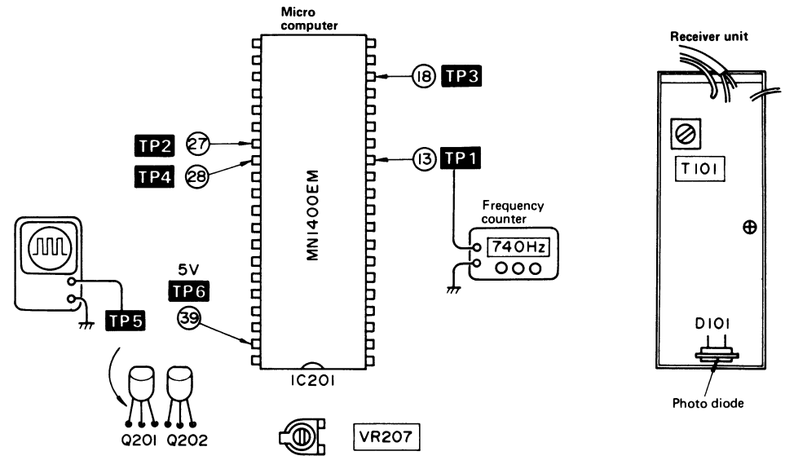
Adjustment of Clock Circuit (IC201)

1. Connect the low frequency counter to TP1 (pin 13).
2. Connect TP3 (pin 18) to TP6 (pin 39) with lead wire.
3. Contact TP2 (pin 27) with TP4 (pin 28) for about 1 sec.
4. Adjust VR207 so that the indication of the frequency counter connected to pin 13 is within a range of 725Hz ~755Hz.

(Note) **For the pins of IC201, do not allow un specified pins to come in contact with each other or with the earth line.**

Adjustment of receiver amplifier

1. Unsolder the shielded case of the receiver to remove the top cover.
2. Connect an oscilloscope to TP5 (Q201 Schmitt Trigger transistor base).
3. Press the "rec mute" button on the transmitter keyboard.
4. While pressing the "rec mute", adjust T101 (receiving coil) so that the pulse waveform on the oscilloscope is maximized.



■ ABGLEICHANWEISUNG DEUTSCH

*** Abgleich der Uhrschaltung (IC201)**

1. Niederfrequenzmesser an TP1 (Stift 13) anschließen.
2. TP3 (Stift 18) an TP6 (Stift 39) mit Kabel anschließen.
3. TP2 (Stift 27) mit TP4 (Stift 28) für ca. 1 Sekunde berühren.
4. VR207 so abgleichen, deß die Anzeige des an Stift 13 angeschlossenen Frequenzmessers innerhalb des Bereichs 725 ~ 755Hz liegt.

(Anmerkung) Bei Stiften von IC201 nicht ermöglichen, nicht vorgeschriebene Stifte miteinander oder mit der Erdleitung in Kontakt zu kommen.

*** Abgleich des Empfänger-Verstärkers**

1. Das abgeschirmte Empfängergehäuses' loslöten, um den Kopfdeckel zu entfernen.
2. Einen Oszilloskop an TP5 (Q201 Schmitt-Transistor-bett) anschließen.
3. Den "rec mute"-Knopf auf der Transmitter-Tastatur drücken.
4. Beim Drücken auf "rec mute" T101 (Empfangsspule) so abgleichen, daß die Impulswellenform auf dem Oszilloskop das Maximum erreicht.

■ INSTRUCTIONS D'ALIGNEMENT FRANÇAIS

*** Réglage du circuit de la montre**

1. Brancher le fréquencemètre de basse fréquence à TP1 (broche 13).
2. Brancher TP3 (broche 18) à TP6 (broche 39) à l'aide du fil d'arrivée.
3. Mettre TP2 (broche 27) en contact avec TP4 (broche 28) pendant une seconde.
4. Régler la VR207 de telle sorte que l'indication du fréquencemètre branché à la broche 13, soit dans les limites de la gamme de 725Hz à 755Hz.

(Note) En ce qui concerne les broches de IC201, ne pas mettre des broches non-spécifiées en contact les unes avec les autres ou avec la ligne de masse.

*** Réglage de l'amplificateur de récepteur**

1. Déssouder le boîtier blindé du récepteur et déposer le couvercle supérieur.
2. Brancher un oscilloscope à TP5 (Base du transistor de Schmitt Q201).
3. Enfoncer le bouton "rec mute" du clavier de l'émetteur.
4. Tout en enfonçant le bouton "rec mute", régler T101 (bobine de réception) de telle sorte que la forme d'onde d'impulsion de l'oscilloscope, soit au maximum.

■ REPLACEMENT PARTS LIST ..... Electrical Parts

NOTES. 1. Part numbers are indicated on most mechanical parts.
Please use this part number for parts orders.
2. ⚠ indicates that only parts specified by the manufacturer be used for safety.

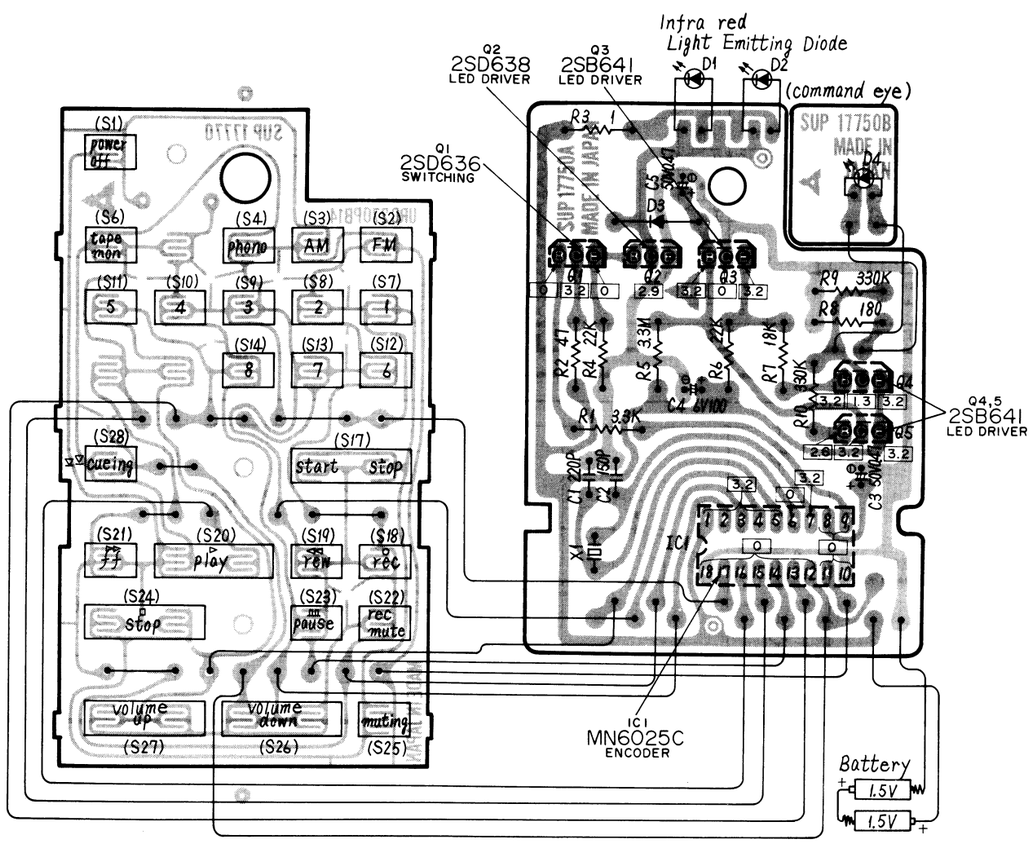
Ref. No.		Part No.	Part Name & Description
INTEGRATED CIRCUITS			
Transmitter			
IC1		MN6025C	IC, Encoder
Receiver			
IC201		MN1400EM	IC, Micro Computer
IC301~303		AN6552F	IC, Buffer
IC304~306		SV1UPD4066C	IC, Analog Switch
IC307		LC7500	IC, Controller
IC308		UPD4081C	IC, And Gates
TRANSISTORS			
Transmitter			
Q1		2SD636	Transistor, Switching
Q2		2SD638	Transistor, LED Drive
Q3~5		2SB641	Transistor, LED Drive
Receiver			
Q101		2SK49-H1	Transistor, Pre Amplifier [FET]
Q102~105		2SD636-R	Transistor, Pre Amplifier
Q201~204		2SC1684-R	Transistor, Schumitt & LED Drive (Use in ranks R or S)
Q205, 206, 303 Q207~218, 301, 302, 304~307		**2SA666AI-R**	Transistor, Switching
		2SC1684-R	Transistor, Interface Buffer & Switching (Use in ranks R or S)
Q401, 403		2SC1815-Y	Transistor, Regulator (Use in ranks Y, GR or BL)
Q402		2SA1015-Y	Transistor, Regulator (Use in ranks Y, GR or BL)
Q404		**2SC1384A-R**	Transistor, Regulator
Q405, 407 411~415		2SC1684-R	Transistor, Switching (Use in ranks R or S)
Q407		**2SA666AI-R**	Transistor, Muting
DIODES			
Transmitter			
D1, 2		LN65	Diode, Infra-Red Light Emitting
D3		**MA162A**	Diode
D4		**LN26RP**	Diode, Light Emitting, Command Eye
Receiver			
D101		PN303	Diode, PIN Photo Diode
D102, 103, 201		**MA162A**	Diode, Switching & Detector
D203, 204		**LN26RP**	Diode, Light Emitting, Command & Muting
D301~304		**MA162A**	Diode
D305, 306		**MA1051**	Diode, 5.1V Zener
D401, 402, 406	⚠	**SM112**	Rectifier
D403, 404		**SVDRD16EB**	Diode, 16V Zener
D405		**SVDEQA0113RA**	Diode, 13V Zener
D407		**MA1056**	Diode, 5.6V Zener
D408		RD4R3EB3F	Diode, 4.3V Zener
D410		**MA162A**	Diode, Switching
D412		**LN26RP**	Diode, Light Emitting, Power Indicator
TRANSFORMERS and COIL			
T1	⚠	ETP41Q32E	Transformer, Power Source
T101		ELM10S325BT	Transformer, Receiver
L301		ELO810SK1330K	Coil, Choke
VARIABLE RESISTOR			
VR207		EVTS3MA00B24	Clock Osc. Adjustment, 20kΩ (B)
CERAMIC OSCILLATOR			
X1		CSB396A	Ceramic Oscillator, 396 kHz
SWITCHES			
S3	⚠	ESB70291S	Switch, Power Source
S4	⚠	ESE372	Switch, Voltage Adjuster

Ref. No.		Part No.	Part Name & Description
FUSES			
F1	⚠	XBA2C025TR0	Fuse, T250 mA (250V)
F2	⚠	XBA2C020TR0	Fuse, T200 mA (250V)
RESISTORS			
Transmitter			
R1		**ERD25FJ332**	Carbon, 3.3kΩ, 1/4W, ± 5%
R2		**ERD25FJ470**	Carbon, 47Ω, 1/4W, ± 5%
R3		**ERD25FJ1R0**	Carbon, 1Ω, 1/4W, ± 5%
R4		**ERD25TJ223**	Carbon, 22kΩ, 1/4W, ± 5%
R5		**ERC14GK335**	Solid, 3.3MΩ 1/4W, ±10%
R6		**ERD25TJ223**	Carbon, 22kΩ, 1/4W, ± 5%
R7		**ERD25TJ183**	Carbon, 18kΩ, 1/4W, ± 5%
R8		**ERD25FJ181**	Carbon, 180Ω, 1/4W, ± 5%
R9, 10		**ERD25TJ334**	Carbon, 330kΩ, 1/4W, ± 5%
Receiver			
R101, 102		**ERD25TJ104**	Carbon, 100kΩ, 1/4W, ± 5%
R103		**ERD25FJ471**	Carbon, 470Ω, 1/4W, ± 5%
R104		**ERD25FJ392**	Carbon, 3.9kΩ, 1/4W, ± 5%
R105		**ERD25FJ272**	Carbon, 2.7kΩ, 1/4W, ± 5%
R106		**ERD25TJ824**	Carbon, 820kΩ, 1/4W, ± 5%
R108		**ERD25FJ822**	Carbon, 8.2kΩ, 1/4W, ± 5%
R109		**ERD25FJ102**	Carbon, 1kΩ, 1/4W, ± 5%
R110		**ERD25FJ101**	Carbon, 100Ω, 1/4W, ± 5%
R111		**ERD25FJ103**	Carbon, 10kΩ, 1/4W, ± 5%
R112		**ERD25TJ474**	Carbon, 470kΩ, 1/4W, ± 5%
R113		**ERD25FJ332**	Carbon, 3.3kΩ, 1/4W, ± 5%
R114		**ERD25FJ822**	Carbon, 8.2kΩ, 1/4W, ± 5%
R115		**ERD25TJ473**	Carbon, 47kΩ, 1/4W, ± 5%
R116		**ERD25TJ223**	Carbon, 22kΩ, 1/4W, ± 5%
R117		**ERD25FJ101**	Carbon, 100Ω, 1/4W, ± 5%
R118		**ERD25FJ681**	Carbon, 680Ω, 1/4W, ± 5%
R119		**ERD25FJ272**	Carbon, 2.7kΩ, 1/4W, ± 5%
R201		**ERD25TJ473**	Carbon, 47kΩ, 1/4W, ± 5%
R202		**ERD25FJ222**	Carbon, 2.2kΩ, 1/4W, ± 5%
R203, 204		**ERD25TJ563**	Carbon, 56kΩ, 1/4W, ± 5%
R205		**ERD25TJ223**	Carbon, 22kΩ, 1/4W, ± 5%
R206		**ERD25FJ102**	Carbon, 1kΩ, 1/4W, ± 5%
R208, 209		**ERD25TJ333**	Carbon, 33kΩ, 1/4W, ± 5%
R210, 211		**ERD25TJ333**	Carbon, 33kΩ, 1/4W, ± 5%
R212		**ERD25TJ154**	Carbon, 150kΩ, 1/4W, ± 5%
R213		**ERD25TJ153**	Carbon, 15kΩ, 1/4W, ± 5%
R214, 215		**ERD25TJ333**	Carbon, 33kΩ, 1/4W, ± 5%
R216		**ERD25TJ333**	Carbon, 33kΩ, 1/4W, ± 5%
R217		**ERD25FJ682**	Carbon, 6.8kΩ, 1/4W, ± 5%
R218, 219		**ERD25TJ333**	Carbon, 33kΩ, 1/4W, ± 5%
R220, 221		**ERD25TJ333**	Carbon, 33kΩ, 1/4W, ± 5%
R222, 223		**ERD25TJ333**	Carbon, 33kΩ, 1/4W, ± 5%
R224, 225		**ERD25TJ333**	Carbon, 33kΩ, 1/4W, ± 5%
R301, 302		**ERD25TJ474**	Carbon, 470kΩ, 1/4W, ± 5%
R303, 304		**ERD25TJ183**	Carbon, 18kΩ, 1/4W, ± 5%
R305, 306		**ERD25TJ123**	Carbon, 12kΩ, 1/4W, ± 5%
R309, 310		**ERD25TJ273**	Carbon, 27kΩ, 1/4W, ± 5%
R311, 312		**ERD25FJ272**	Carbon, 2.7kΩ, 1/4W, ± 5%
R313, 314		**ERD25FJ271**	Carbon, 270Ω, 1/4W, ± 5%
R315, 316		**ERD25TJ223**	Carbon, 22kΩ, 1/4W, ± 5%
R317, 318		**ERD25FJ222**	Carbon, 2.2kΩ, 1/4W, ± 5%
R319, 320		**ERD25TJ223**	Carbon, 22kΩ, 1/4W, ± 5%
R321, 322		**ERD25TJ393**	Carbon, 39kΩ, 1/4W, ± 5%
R325		**ERD25FJ181**	Carbon, 180Ω, 1/4W, ± 5%
R326		**ERD25FJ152**	Carbon, 1.5kΩ, 1/4W, ± 5%
R327, 328		**ERD25TJ223**	Carbon, 22kΩ, 1/4W, ± 5%
R329, 330		**ERD25FJ152**	Carbon, 1.5kΩ, 1/4W, ± 5%
R331		**ERD25FJ152**	Carbon, 1.5kΩ, 1/4W, ± 5%
R332		**ERD25FJ181**	Carbon, 180Ω, 1/4W, ± 5%
R333, 334		**ERD25TJ223**	Carbon, 22kΩ, 1/4W, ± 5%
R335, 336		**ERD25FJ332**	Carbon, 3.3kΩ, 1/4W, ± 5%
R337, 338		**ERD25FJ222**	Carbon, 2.2kΩ, 1/4W, ± 5%
R339, 340		**ERD25FJ270**	Carbon, 27Ω, 1/4W, ± 5%
R343, 344		**ERD25FJ103**	Carbon, 10kΩ, 1/4W, ± 5%
R345, 346		**ERD25FJ222**	Carbon, 2.2kΩ, 1/4W, ± 5%
R347, 348		**ERD25FJ222**	Carbon, 2.2kΩ, 1/4W, ± 5%
R349, 350		**ERD25FJ182**	Carbon, 1.8kΩ, 1/4W, ± 5%
R351, 352		**ERD25FJ472**	Carbon, 4.7kΩ, 1/4W, ± 5%
R353, 354		**ERD25FJ820**	Carbon, 82Ω, 1/4W, ± 5%
R355, 356		**ERD25TJ104**	Carbon, 100kΩ, 1/4W, ± 5%
R357, 358		**ERD25FJ222**	Carbon, 2.2kΩ, 1/4W, ± 5%
R359, 360		**ERD25TJ224**	Carbon, 220kΩ, 1/4W, ± 5%
R361, 362		**ERD25TJ224**	Carbon, 220kΩ, 1/4W, ± 5%
R363, 364		**ERD25TJ153**	Carbon, 15kΩ, 1/4W, ± 5%
R365, 366		**ERD25TJ473**	Carbon, 47kΩ, 1/4W, ± 5%
R367		**ERD25TJ154**	Carbon 150kΩ, 1/4W, ± 5%
R368		**ERD25TJ104**	Carbon, 100kΩ, 1/4W, ± 5%
R369		**ERD25TJ473**	Carbon, 47kΩ, 1/4W, ± 5%
R370		**ERD25FJ682**	Carbon, 6.8kΩ, 1/4W, ± 5%
R371, 372		**ERD25TJ473**	Carbon, 47kΩ, 1/4W, ± 5%
R373, 374		**ERD25TJ473**	Carbon, 47kΩ, 1/4W, ± 5%
R375, 376		**ERD25TJ223**	Carbon, 22kΩ, 1/4W, ± 5%
R377, 378		**ERD25TJ104**	Carbon, 100kΩ, 1/4W, ± 5%
R379, 380		**ERD25FJ152**	Carbon, 1.5kΩ, 1/4W, ± 5%
R381, 382		**ERD25TJ153**	Carbon, 15kΩ, 1/4W, ± 5%
R383, 384		**ERD25FJ222**	Carbon, 2.2kΩ, 1/4W, ± 5%
R401	⚠	**ERD25FJ100**	Carbon, 10Ω, 1/4W, ± 5%
R402, 403		**ERD25FJ392**	Carbon, 3.9kΩ, 1/4W, ± 5%
R404, 405		**ERD25FJ221**	Carbon, 220Ω, 1/4W, ± 5%
R406, 407		**ERD25FJ100**	Carbon, 10Ω, 1/4W, ± 5%
R408, 410		**ERD25FJ221**	Carbon, 220Ω, 1/4W, ± 5%
R409		**ERD25FJ392**	Carbon, 3.9kΩ, 1/4W, ± 5%
R411, 412		**ERD25FJ471**	Carbon, 470Ω, 1/4W, ± 5%
R413		**ERD25FJ101**	Carbon, 100Ω, 1/4W, ± 5%
R416, 417		**ERD25FJ682**	Carbon, 6.8kΩ, 1/4W, ± 5%
R418		**ERD25FJ103**	Carbon, 10kΩ, 1/4W, ± 5%
R419		**ERD25TJ333**	Carbon, 33kΩ, 1/4W, ± 5%
R420, 421		**ERD25FJ561**	Carbon, 560Ω, 1/4W, ± 5%
R422		**ERD25FJ561**	Carbon, 560Ω, 1/4W, ± 5%
R430		**ERD25FJ103**	Carbon, 10kΩ, 1/4W, ± 5%
R432		**ERD25FJ101**	Carbon, 100Ω, 1/4W, ± 5%
R433		**ERD25FJ271**	Carbon, 270Ω, 1/4W, ± 5%
R434		**ERD25FJ332**	Carbon, 3.3kΩ, 1/4W, ± 5%
R435		**ERD25TJ563**	Carbon, 56kΩ, 1/4W, ± 5%
R436		**ERD25FJ102**	Carbon, 1kΩ, 1/4W, ± 5%
R437		**ERD25TJ183**	Carbon, 18kΩ, 1/4W, ± 5%
CAPACITORS			
Transmitter			
C1		ECKD1H221KB	Ceramic, 220pF, 50V, ±10%
C2		ECKD1H151KB	Ceramic, 150pF, 50V, ±10%
C3		**ECEA50ZR47**	Electrolytic, 0.47μF, 50V
C4		**ECEA1AS101**	Electrolytic, 100μF, 10V

Ref. No.		Part No.	Part Name & Description
C5		**ECEA50ZR47**	Electrolytic, 0.47μF, 50V
Receiver			
C10, 11	⚠	ECKDKC103PF	Ceramic, 0.01μF, 400VAC, +100 0 %
C101		**ECEA50Z2R2**	Electrolytic, 2.2μF, 50V
C102		ECKD1H681KB	Ceramic, 680pF, 50V, ±10%
C103		**ECEA50ZR1**	Electrolytic, 0.1μF, 50V
C104		ECKD1H271KB	Ceramic, 270pF, 50V, ±10%
C105		**ECEA1HS100**	Electrolytic, 10μF, 50V
C106		ECKD1H102KB	Ceramic, 0.001μF, 50V, ±10%
C107		**ECEA50ZR1**	Electrolytic, 0.1μF, 50V
C108		ECKD1H102KB	Ceramic, 0.001μF, 50V, ±10%
C109		**ECEA50Z1**	Electrolytic, 1μF, 50V
C110		ECQS1911KX	Polystyrene, 910pF, 125V, ±10%
C111		**ECEA50ZR33**	Electrolytic, 0.33μF, 50V
C112		**ECEA1ES101**	Electrolytic, 100μF, 25V
C201		ECCD1H680KU	Ceramic, 68pF, 50V, ±10%
C202		**ECEA50Z1**	Electrolytic, 1μF, 50V
C203		**ECEA50Z2R2**	Electrolytic, 2.2μF, 50V
C204, 205		ECKD1H222ZF	Ceramic, 0.0022μF, 50V, +80 -20 %
C206, 207		ECKD1H222ZF	Ceramic, 0.0022μF, 50V, +80 -20 %
C208, 209		ECKD1H222ZF	Ceramic, 0.0022μF, 50V, +80 -20 %
C210, 211		ECKD1H222ZF	Ceramic, 0.0022μF, 50V, +80 -20 %
C212, 213		ECKD1H222ZF	Ceramic, 0.0022μF, 50V, +80 -20 %
C214		ECKD1H222ZF	Ceramic, 0.0022μF, 50V, +80 -20 %
C217		ECKD1H222ZF	Ceramic, 0.0022μF, 50V, +80 -20 %
C301, 302		**ECEA25Z4R7**	Electrolytic, 4.7μF, 25V
C303, 304		**ECEA1AS470**	Electrolytic, 47μF, 10V
C305, 306		**ECEA1AS470**	Electrolytic, 47μF, 10V
C307, 308		**ECEA1AS470**	Electrolytic, 47μF, 10V
C309, 310		**ECEA1AS470**	Electrolytic, 47μF, 10V
C311, 312		**ECEA1AS470**	Electrolytic, 47μF, 10V
C313, 314		ECKD1H331KB	Ceramic, 330pF, 50V, ±10%
C315, 316	⚠	**ECEA50N1**	Non-polar Electrolytic, 1μF, 50V
C317, 318		**ECEA25Z4R7**	Electrolytic, 4.7μF, 25V
C319		**ECEA1CS330**	Electrolytic, 33μF, 16V
C320		**ECEA1ES101**	Electrolytic, 100μF, 25V
C321, 322		**ECEA1CS330**	Electrolytic, 33μF, 16V
C323		ECQM1H123KZ	Polyester, 0.012μF, 50V, ±10%
C324		**ECEA25Z4R7**	Electrolytic, 4.7μF, 25V
C325, 326		**ECEA50Z1**	Electrolytic, 1μF, 50V
C401		**ECEA1VS221**	Electrolytic, 220μF, 35V
C402		**ECEA1VS471**	Electrolytic, 470μF, 35V
C403, 404		**ECEA1ES470**	Electrolytic, 47μF, 25V
C405		**ECEA1CS330**	Electrolytic, 33μF, 16V
C406		**ECEA1CS471**	Electrolytic, 470μF, 16V
C407		**ECEA1ES470**	Electrolytic, 47μF, 25V
C409		**ECEA50Z1**	Electrolytic, 1μF, 50V
C410		**ECEA1AS101**	Electrolytic, 100μF, 10V
C411		**ECEA1AS470**	Electrolytic, 47μF, 10V

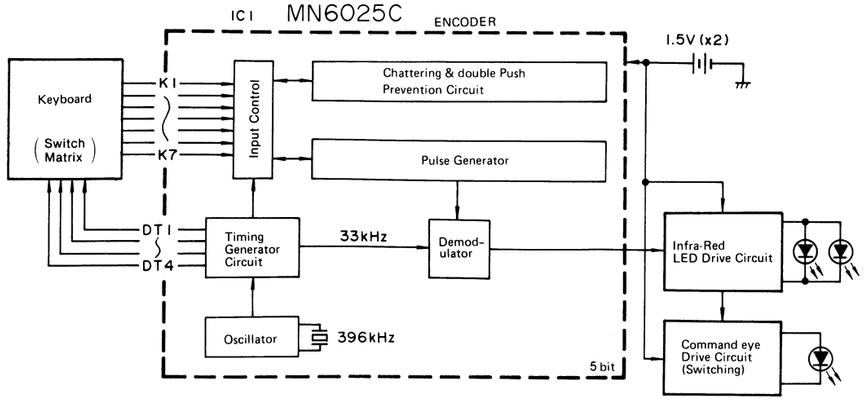
■ PRINTED CIRCUIT BOARD WIRING VIEW OF TRANSMITTER

*** The schematic diagram of transmitter is shown on page 11.**

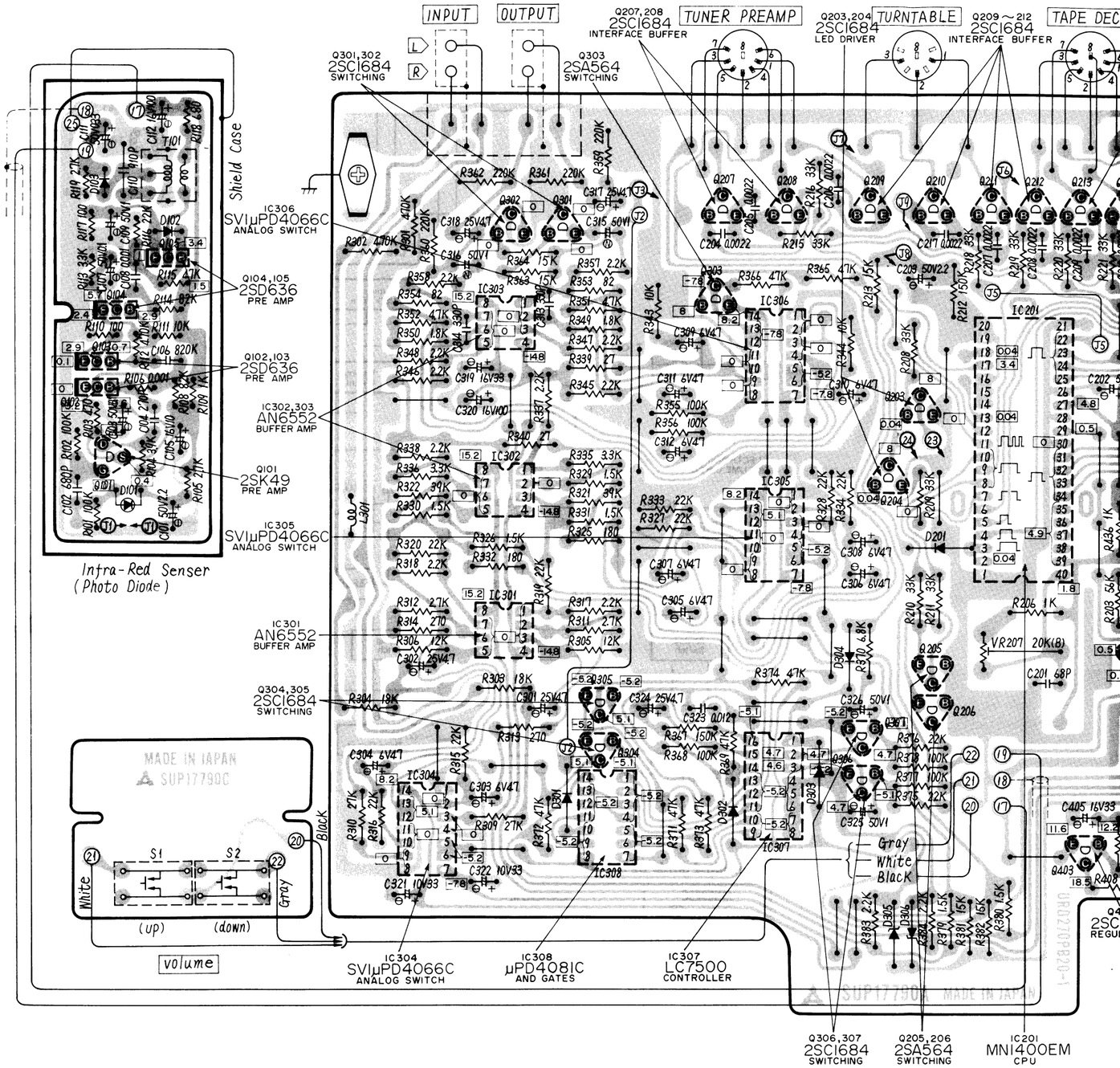


*** The printed circuit board of the keyboard is the diagram as viewed through the circuit surface.**

■ BLOCK DIAGRAM OF TRANSMITTER

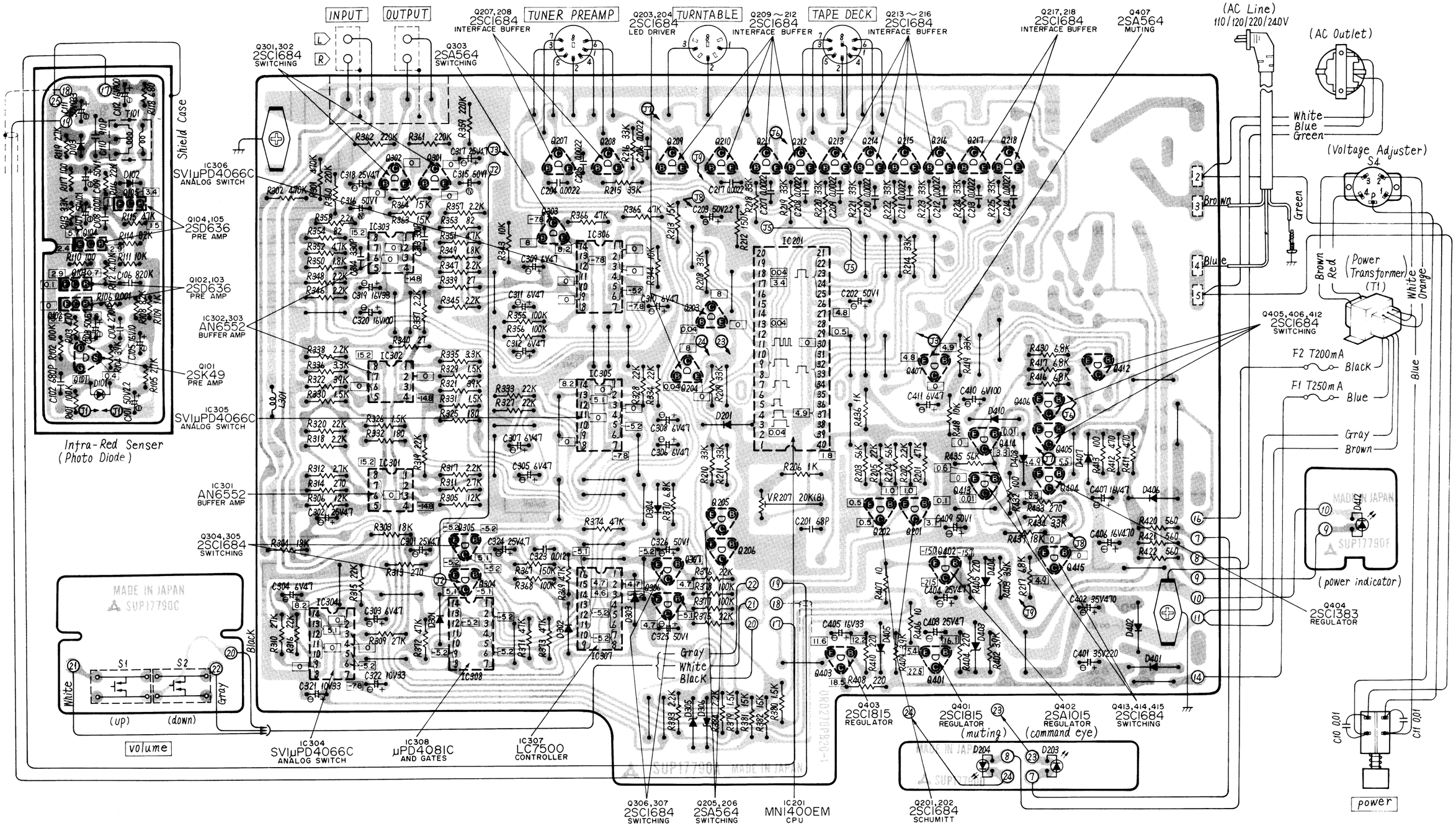


■ PRINTED CIRCUIT BOARD WIRING VIEW OF RECEIVER



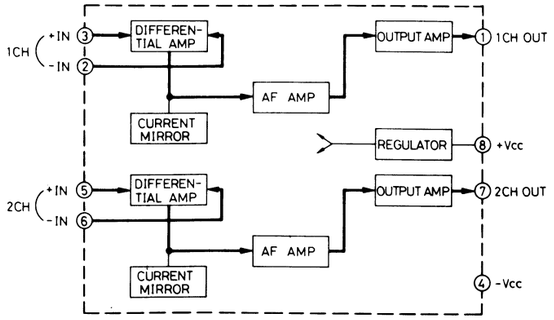
■ PRINTED CIRCUIT BOARD WIRING VIEW OF RECEIVER

Earth (Ground) Lines

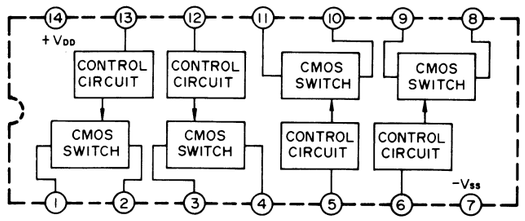


■ BLOCK DIAGRAM OF IC'S

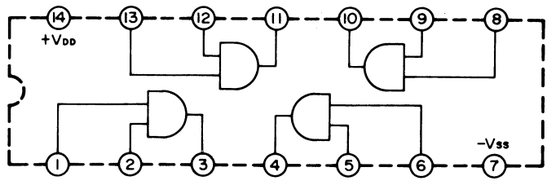
* This is the basic block diagram of the inside circuit of IC. In an actual circuit, there may be sometimes idle terminals or some different functions other than the basic circuit.



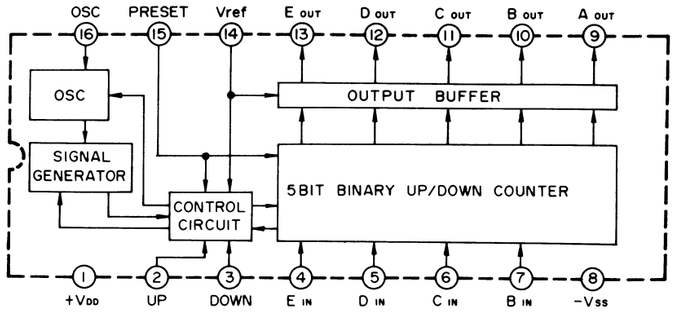
IC301～IC303 (AN6552)
Buffer



IC304～IC306 (SVIμPD4066C)
Analog Switch



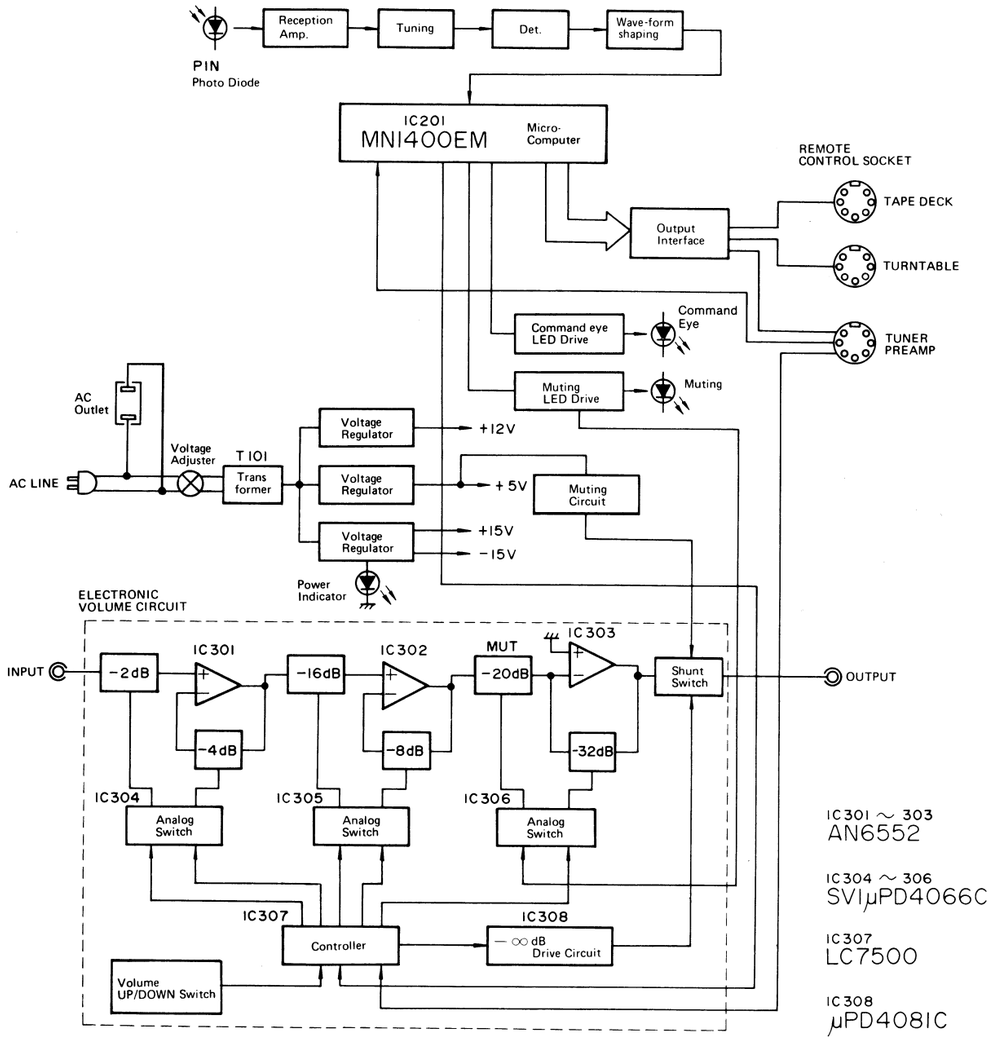
IC308 (μPD4081C)
AND Gate (−∞ drive)



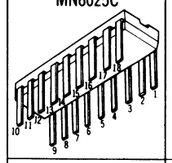
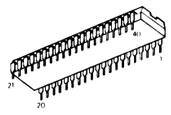
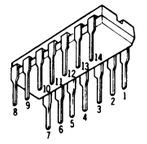
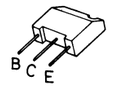
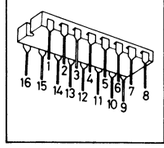
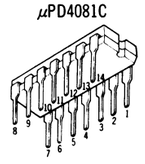
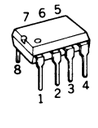
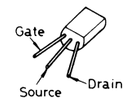
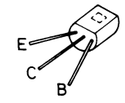
IC307 (LC7500)
Electronic Volume Control

■ BLOCK DIAGRAM OF RECEIVER

*** The schematic diagram of receiver is shown on page 15.**



*** Terminal guide of transistors and IC's**

MN6025C 	MN1400EM 		SVIμPD4066C 	2SD636, 2SD638, 2SB641 
LC7500 	μPD4081C 	AN6552 	2SK49 	2SA564, 2SA1015, 2SC1383, 2SC1684, 2SC1815 

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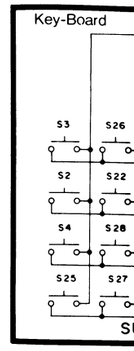

Q1
2SD636
SWITCHING

Q3～5
2SB641
LED DRIVER

D1, 2
LN65

D3
MA150

SUP 1775C

Notes
S1:
S2:
S3:
S4:
S6:
S7:
S8:
S9:
S10:
S11:
S12:
S13:
S14:
S17:
S18:
S19:
S20:
S21:
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S23:
S24:
S25:
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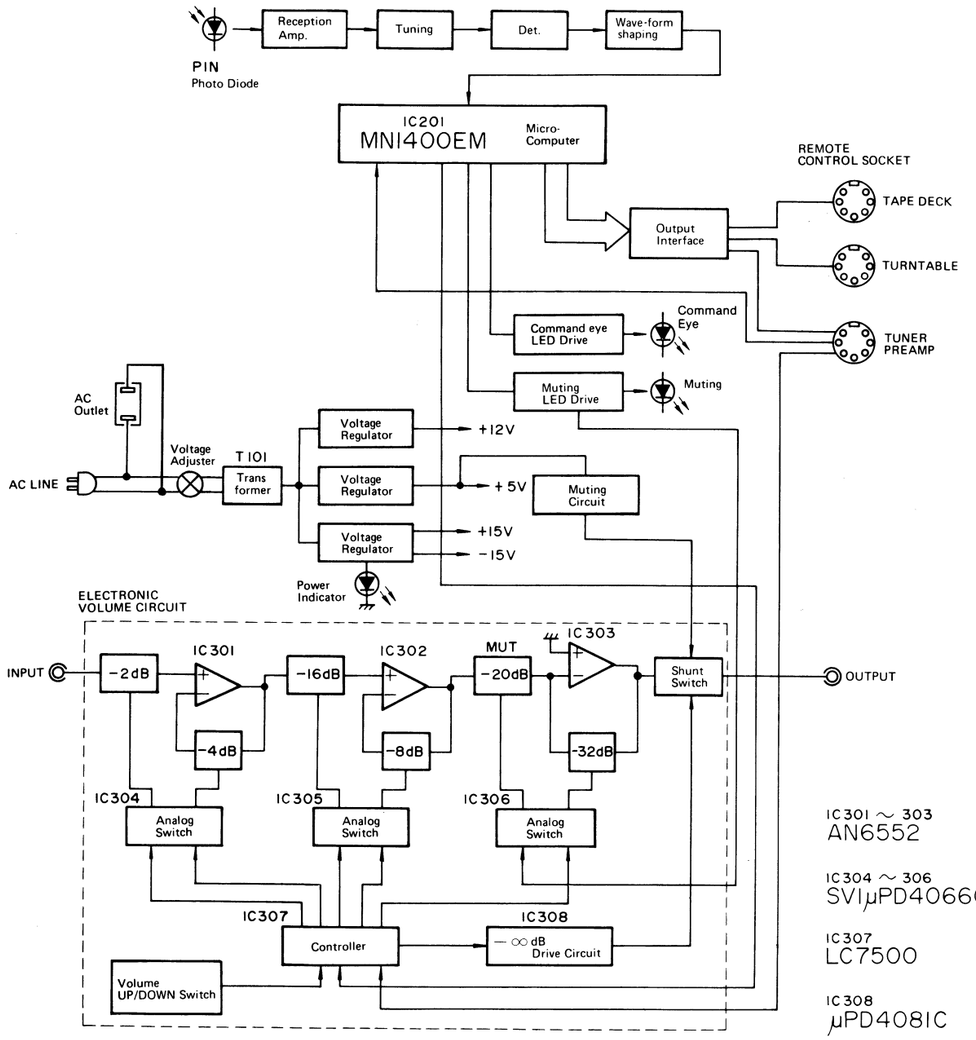
■ BLOCK DIAGRAM OF RECEIVER

*** The schematic diagram of receiver is shown on page 15.**



IC301 ~ 303
AN6552

IC304 ~ 306
SVIμPD4066C

IC307
LC7500

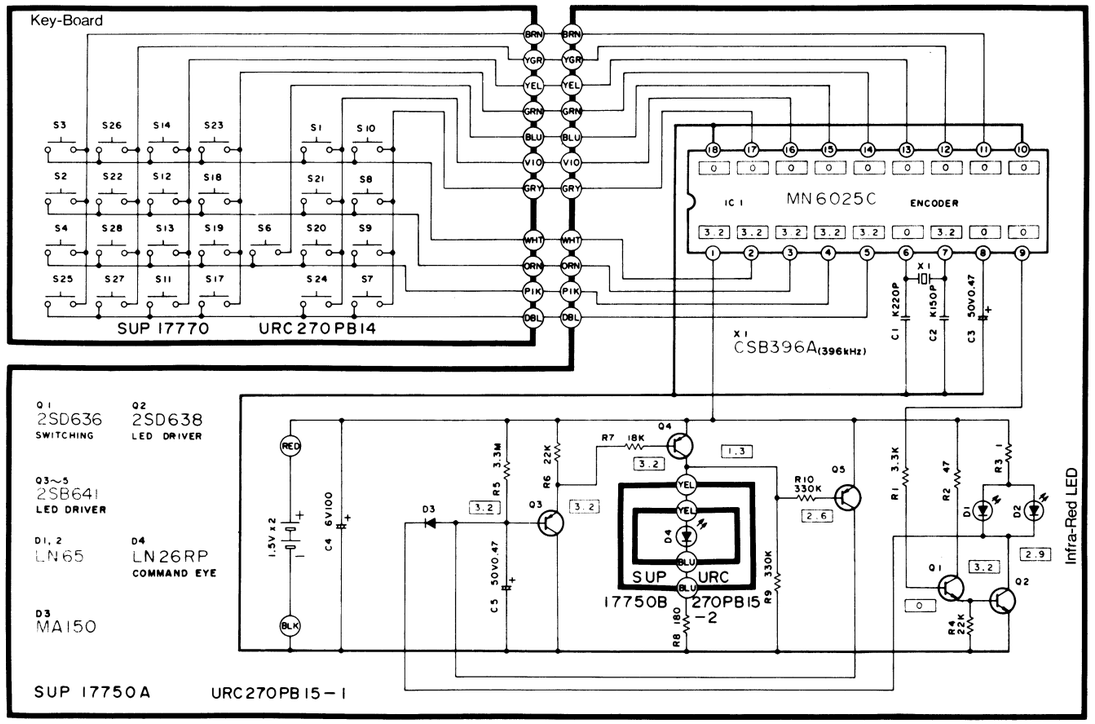
IC308
μPD4081C

*** Terminal guide of transistors and IC's**

MN6025C	MN1400EM		SVIμPD4066C	2SD636, 2SD638, 2SB641
LC7500	μPD4081C	AN6552	2SK49	2SA564, 2SA1015, 2SC1383, 2SC1684, 2SC1815

■ SCHEMATIC DIAGRAM OF TRANSMITTER

(This schematic diagram may be modified at any time with the development of new technology.)



Notes

S1: **"Power off"** switch . . . . . (Cut off power supply for equipment other than receiver SH-R808.)
S2: **"FM"** selection and power "on" switch.
S3: **"AM"** selection and power "on" switch.
S4: "Record player **(phono)**" selection and power "on" switch.
S6: **"Tape monitor"** switch.
S7: Channel **"1"** selection switch.
S8: Channel **"2"** selection switch.
S9: Channel **"3"** selection switch.
S10: Channel **"4"** selection switch.
S11: Channel **"5"** selection switch.
S12: Channel **"6"** selection switch.
S13: Channel **"7"** selection switch.
S14: Channel **"8"** selection switch.
S17: Record player **"start·stop"** switch.
S18: Tape deck **"record"** switch.
S19: Tape dack **"rewind"** switch.
S20: Tape dack **"play"** switch.
S21: Tape dack **"fast-forward"** switch.
S22: Tape dack **"record muting"** switch.
S23: Tape dack **"pause"** switch.
S24: Tape dack **"stop"** switch.
S25: Volume **"muting"** switch.
S26: Volume **"down"** switch.
S27: Volume **"up"** switch.
S28: Record player **"cueing"** switch.

* [ ] Figures in parentheses stand for DC voltage values in a state of no transmission.
* When playing back a tape, push one of the selector switches FM (S2), AM (S3) and phono (S4), and then switch on the tuner pre-amplifier ST-K808.
* When the tape deck is RS-M24, remote control is impossible except temporary stop and mute record.

SCHEMATIC DIAGRAM OF RECEIVER

This schematic diagram may be modified at any time with the development of new technology.

*** The block diagram of IC is shown on page 9, that of the receiver on page 10.**

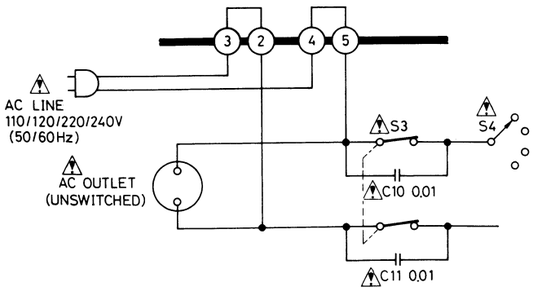
*** The schematic diagram of transmitter is shown on page 11.**

Notes

1. **S1**: **"Volume up"** switch.
2. **S2**: **"Volume down"** switch.
3. **S3**: Power source switch in **"on"** position.
4. **S4**: Voltage adjust switch in **"240V"** position.
5. ▭ Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high impedance) with the chassis taken as standard.
   Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.
6. ⚠ Indicates that only parts specified by the manufacturer be used for safety.
7. ⟹ Audio frequency signal lines from tuner preamplifier ST-K808.
8. ▬ Positive voltage lines.

*** This power source circuit is available in Denmark, Asia, Latin America, Middle East and Africa.**

for (DM) & (XA)



7 8 9 10 11 12 13 14 15

onic
me Circuit

−4dB −8dB −32dB −14.8V line

SUP17790A
URD270PB20−1

−2dB −16dB −20dB

R303 18K R304 18K

IC301 AN6552 BUFFER AMP
IC302 AN6552 BUFFER AMP
IC303 AN6552 BUFFER AMP

Q301, 302
2SC1684
SWITCHING

L ch OUTPUT
R ch OUTPUT
TO POWER AMP

+15.2V line

Q303
2SA564
SWITCHING

IC304 SVIμPD4066C ANALOG SWITCH
IC305 SVIμPD4066C ANALOG SWITCH
IC306 SVIμPD4066C ANALOG SWITCH

D301~304
MA150

D305, 306
MA1051

IC307 LC7500 CONTROLLER

Q305
Q304

IC308 μPD4081C AND GATES

0304~307
2SC1684
SWITCHING

Q307
Q306

Q403
Q401
Q402

+15.2V line
−14.8V line

Q207~218
2SC1684
INTERFACE BUFFER

0405, 406, 412
2SC1684
SWITCHING

TO TUNER PREAMP
① SELECTOR CH
② GND
③ BACK UP +B
④ AUX LATCH
⑤ TAPE MONITOR
⑥ ALL OFF

TO TURNTABLE
① START / STOP
② GND
③ CUEING — LOW while being pushed

TO TAPE DECK
① PAUSE
② GND
③ REC MUTE — LOW while being pushed
④ PLAY
⑤ F. F.
⑥ REC
⑦ REW
⑧ STOP

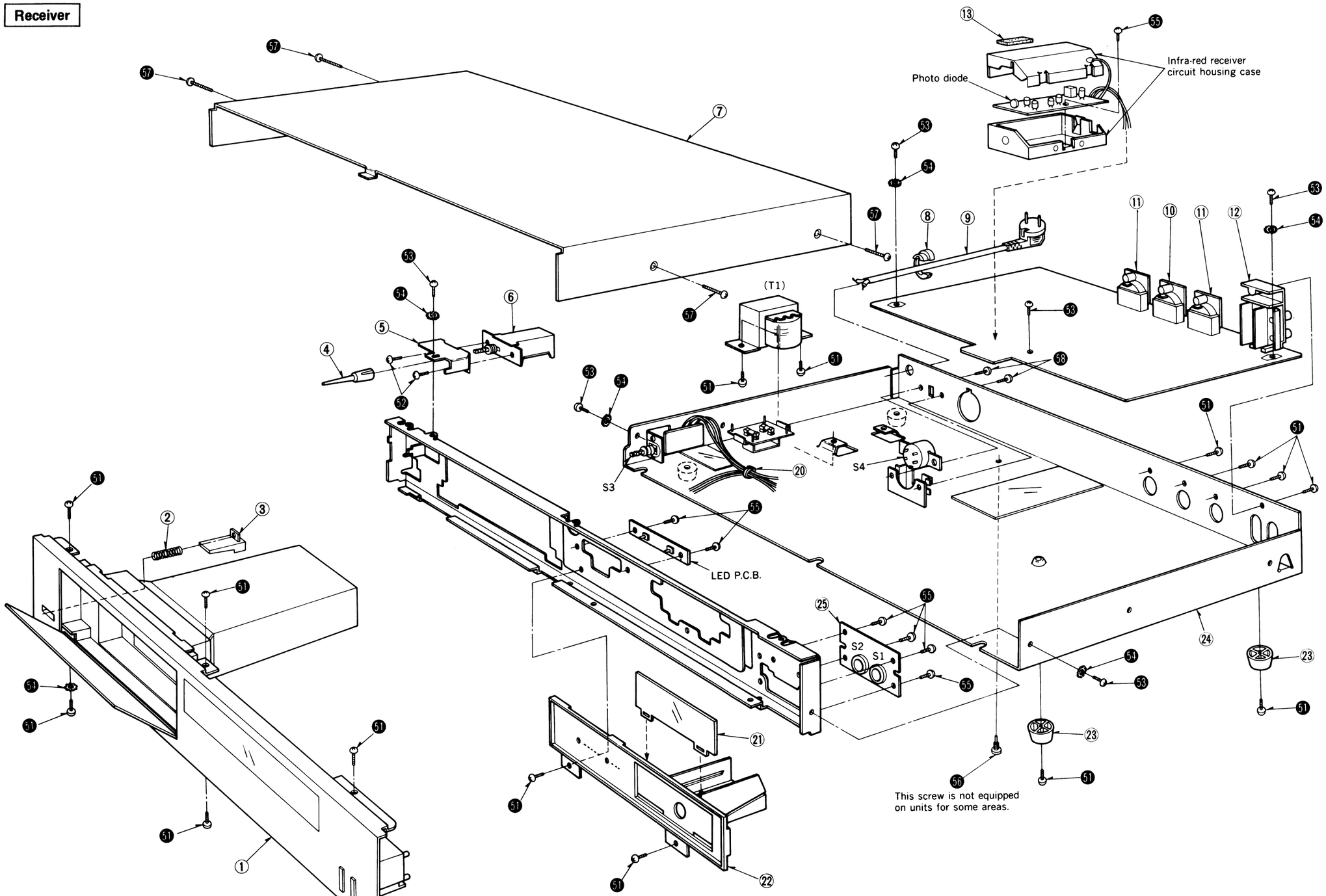
*** The waveforms of tuner pre-amplifier remote control terminal pins ① and ③ are as follows:**

Pin ① (SELECTOR CH)
1CH ⟶ 10ms + zero (0) pulse
2CH ⟶ 10ms + one (1) pulse
3CH ⟶ 10ms + two (2) pulses
4CH ⟶ 10ms + three (3) pulses
5CH ⟶ 10ms + four (4) pulses
6CH ⟶ 10ms + five (5) pulses
7CH ⟶ 10ms + six (6) pulses
8CH ⟶ 10ms + seven (7) pulses
FM ⟶ 10ms + thirteen (13) pulses
Phono ⟶ 10ms + fourteen (14) pulses
AM ⟶ 10ms + fifteen (15) pulses

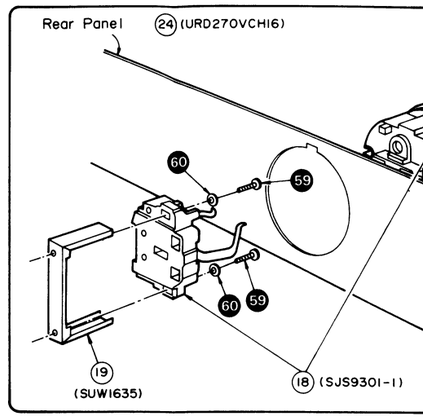
Pin ③ (BACK UP +B)
Last sound holding voltage to activate the electronic volume control is added to this pin.

■ EXPLODED VIEWS

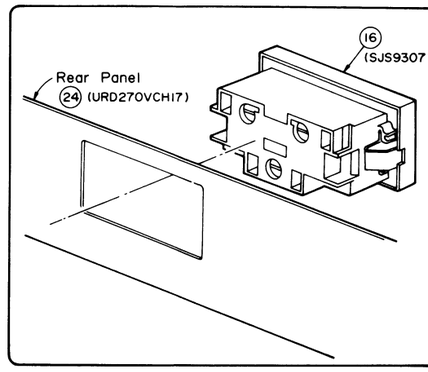
Receiver



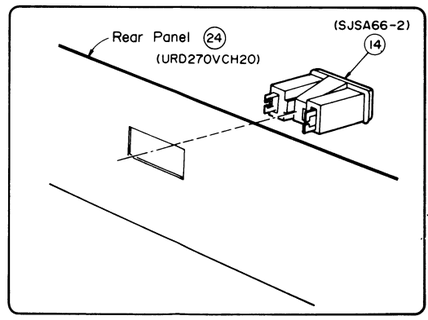
- **AC outlet and rear panel**
  (DX, EB, EG, XGH, XGF). . . . . For Scandina
  (Except for Switzerland, Denmark and United



(XSW) only . . . . . For Switzerland

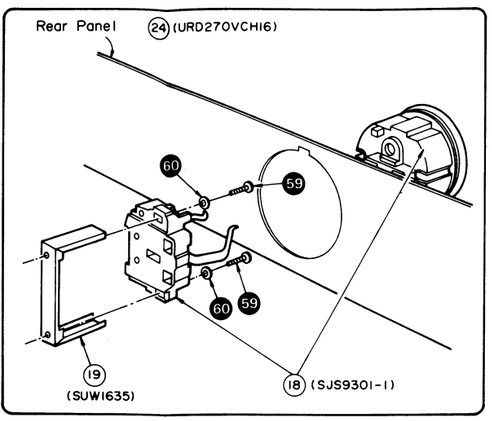


(XA) only . . . . . For Asia, Latin America, Middl
East and Africa

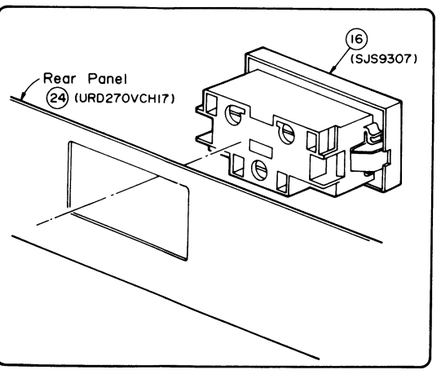


- **AC outlet and rear panel**

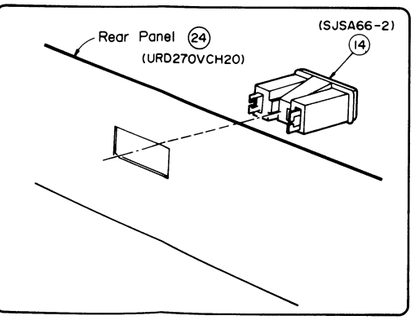
(DX, EB, EG, XGH, XGF). . . . . For Scandinavia and European (Except for Switzerland, Denmark and United Kingdom)



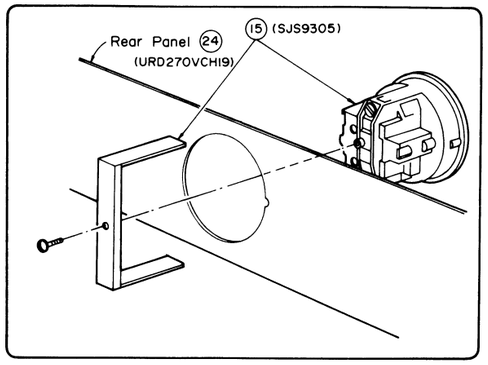
(XSW) only . . . . . For Switzerland



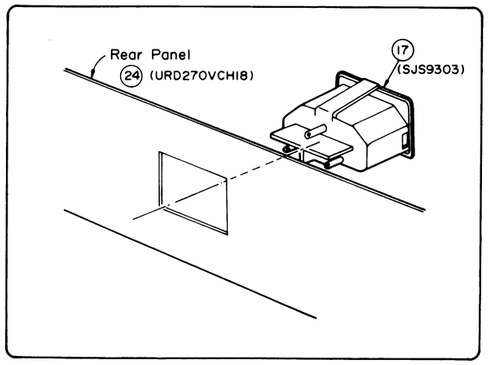
(XA) only . . . . . For Asia, Latin America, Middle East and Africa



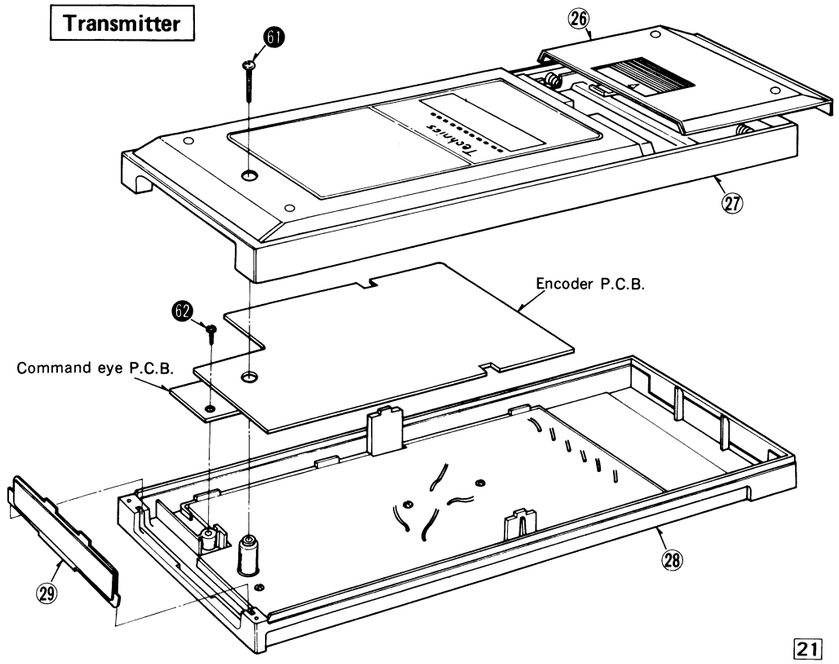
(DM) only . . . . For Denmark



(XE) only . . . . . For United Kingdom



Transmitter



■ REPLACEMENT PARTS LIST ..... Cabinet and Chassis Parts

Notes: 1. Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
2. ⚠ indicates that only parts specified by the manufacturer be used for safety.
3. The (K) -marked part are used only for the set based on the black type, and the other part are used in both silver and black type.

Black type model No. : SH-R808 (K)

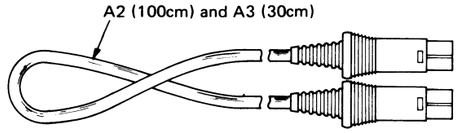
Ref. No.		Part No.	Part Name & Description
			CABINET and CHASSIS PARTS
Receiver			
1		URD270VTP31	Panel, Front Ass'y
1	(K)	URD270VTP32	Panel, Front Ass'y (Black)
2		SUS159	Spring, Power Switch Button
3		URD270BT34	Button, Power Switch
3	(K)	URD270BT154	Button, Power Switch (Black)
4		SBC255	Stopper, Door
4	(K)	URD270SP192	Stopper, Door (Black)
5		SMN1677	Bracket, Stopper
6		ESB71711	Door Push, Spring
7		SKC190H	Cabinet
7	(K)	URD270CU152	Cabinet (Black)
8 [DM] only		SFSR4N4	Bushing, AC Cord
8 [Other Arers]		SHR131	Bushing, AC Cord
9 [DM] only	⚠	**SJA97**	AC Cord, Power Source (w/Plug)
9 [XSW] only	⚠	SJA119	AC Cord, Power Source (w/Plug)
9 [XE] only	⚠	**QFC1206M**	AC Cord, Power Source
9 [XA] only	⚠	**RJA52Z**	AC Cord, Power Source (w/Plug)
9 [DX, EB, XGH, XGF, EG]	⚠	SJA103–1	AC Cord, Power Source (w/Plug)
10		SJS6305	Socket, 3 pin
11		SJS6805	Socket, 8 pin
12		SJF3441N	Terminal, Input/Output
13		SHG1481	Rubber Cushion, Reception Circuit
14 [XA] only	⚠	SJSA66–2	Socket, AC Outlet
15 [DM] only	⚠	SJS9305	Socket, AC Outlet
16 [XSW] only	⚠	SJS9307	Socket, AC Outlet
17 [XE] only	⚠	SJS9303	Socket, AC Outlet
18 [DX, EB, EG, XGH, XGF]	⚠	SJS9301–1	Socket, AC Outlet
19		SUW1635	Bracket, Socket M'tg
20		SHR301	Clamp, Wire
21		URD270SB10	Filter, Reception Circuit
22		URD270HG8	Bracket, Reception Circuit
22	(K)	URD270HG155	Bracket, Reception Circuit (Black)
23		SKL227	Foot, Set Reception Circuit
24 [XA] only		URD270VCH20	Rear Panel, with Chassis
24 [DM] only		URD270VCH19	Rear Panel, with Chassis
24 [XE] only		URD270VCH18	Rear Panel, with Chassis
24 [XSW] only		URD270VCH17	Rear Panel, with Chassis
24 [DX, EB, EG, XGH, XGF]		URD270VCH16	Rear Panel, with Chassis
25		URD270VPB1–3	Volume Switch P.C.B Ass'y

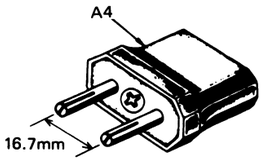
Ref. No.		Part No.	Part Name & Description
Transmitter			
26		URC270VEC13	Cover, Battery Ass'y
26	(K)	URC270VEC14	Cover, Battery (Black) Ass'y
27		URC270VCS9	Cover, Bottom Ass'y
27	(K)	URC270VCS11	Cover, Bottom (Black) Ass'y
28		URC270VCS8	Key Board, Ass'y
28	(K)	URC270VCS15	Key Board, Ass'y (Black)
29		URC270SB4	Filter
			SCREWS and WASHERS
①		**XTB3+8BFZ**	Screw, Tapping, ⊕ 3 x 8
②		**XSN3+6BNS**	Screw, ⊕ 3 x 6
③		**XTB3+8BFN**	Screw, Tapping, ⊕ 3 x 8
④		**XWC3B**	Washer, External Toothed Lock, ϕ3
⑤		**XTB3+6BFN**	Screw, Tapping, ⊕ 3 x 6
⑥		SNE2053	Screw, Tapping (w/Lapping Terminal)
⑦		**XTB4+8BFN**	Screw, Tapping, ⊕ 4 x 8
⑦	(K)	**XTB4+8BFZ**	Screw, Tapping, ⊕ 4 x 8 (Black)
⑧		**XTN3+16BFZ**	Screw, Tapping, ⊕ 3 x 16
⑧		**XTB3+16BFN**	Screw, Tapping, ⊕ 3 x 16
⑩		XWE4FZ	Washer, Plain, ϕ4
⑪		**XSN26+16BV**	Screw, ⊕ 2.6 x 16
⑫		**XTN26+6BFN**	Screw, Tapping, ⊕ 2.6 x 6
			ACCESSORIES
A1		SJP2129–5	Cord, Pin Connection
A2		SJP2801–1	Cord, DIN Connection, 100 cm (39-3/8")
A3		SJP2801–2	Cord, DIN Connection, 30 cm (11-13/16")
A4 [XA] only	⚠	RJP74–1	Plug Adapter, AC Power
A5 [XA] only	⚠	RJP75	Plug Adapter, AC Power
			PACKING PARTS
P1		SPP501	Polyethylene Bag, Receiver
P2		SPS2401	Protector A, Right Side
P3		SPS2399	Protector B, Left Side
P4		SPS2423	Protector C, Upper Side
P5		URD270PC245	Partition, Front & Rear Side
P6		SPP189	Polyethylene Bag, Transmitter
P7		URD270PC552	Protector, Transmitter
P8		URD270VPC14	Protector, Transmitter
P9 [XGF] only		URD270PC1142	Carton Box
P9 [Other Areas]		URD270PC1141	Carton Box
P9	(K)	URD270PC1168	Carton Box (Available in Black Panel)
P10 [XA] only		URD270VMN12	Instructions Book, Printed Matter
P10 [Other Areas]		URD270VMN21	Instructions Book, Printed Matter
P10	(K)	URD270VMN23	Instructions Book, Printed Matter

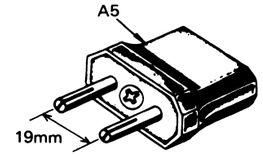
Areas

* (DX) is available in Scandinavia except Denmark and European.
* (DG) is available in Scandinavia and European except Switzerland.
* (DM) is available in Denmark.
* (EB) is available in Belgium.
* (XE) is available in United Kingdom.
* (XSW) is available in Switzerland.
* (XGH) is available in Holland.
* (XGF) is available in France.
* (XA) is available in Asia, Latin America, Middle East and Africa.

■ ACCESSORIES







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